

SEEDBED PROBLEMS

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The rotting of seed and the blighting of seedlings is so universal that most growers "over-plant" in order to insure a good stand. The disease condition generally recognized as "damping-off" by the layman may be any one of three distinct problems. These are seed rot, pre-emergence damping-off, and post emergence damping-off:-

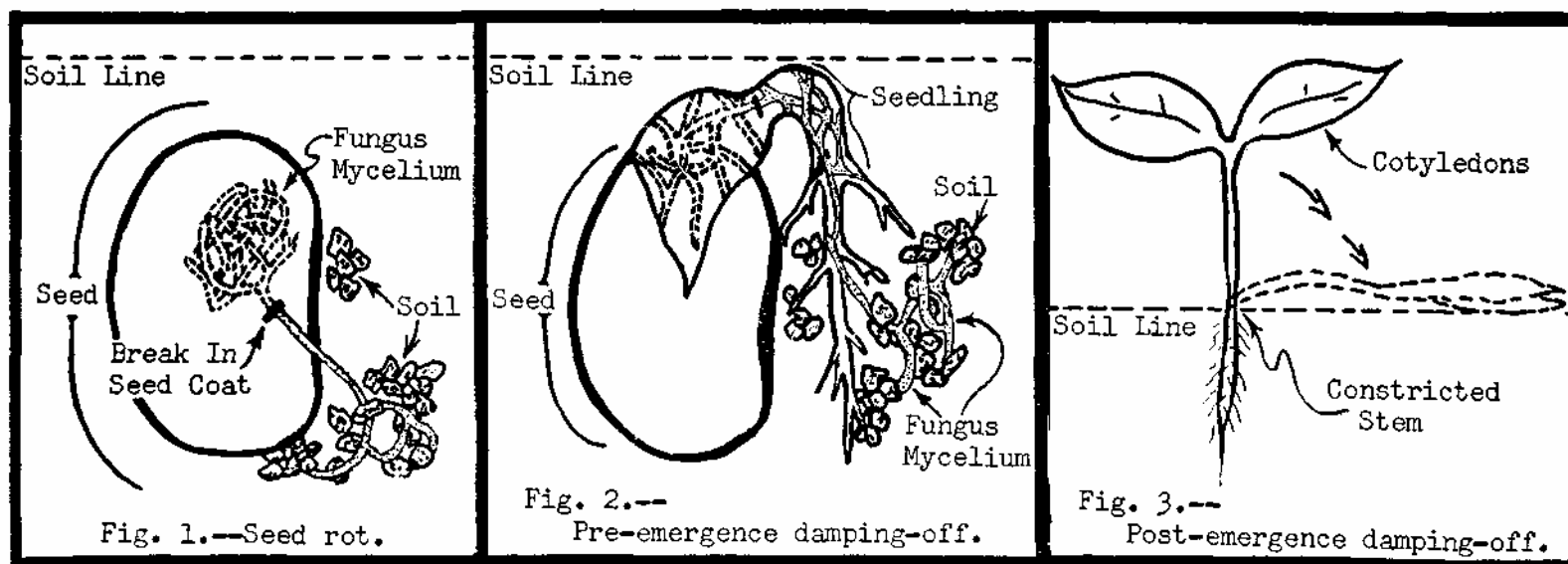
**Seed Rot:** Seed rot occurs when fungi or bacteria in the soil gain entry by way of a break in the seed coat. As a result, the seed may rot before it can germinate. Fig. 1.

**Pre-Emergence Damping-Off:** Pre-emergence damping-off occurs after the seed has sprouted but before the tender young stem has reached the soil surface. The soft tissues can be invaded and the new plant may be killed during this stage of its development. Fig. 2.

**Post-Emergence Damping-Off:** Post-emergence damping-off occurs after the young seedling breaks through the soil mass. The plant tissue can then be penetrated at the point where the stem is in contact with the soil. Once invaded, the stem tissue becomes weakened and the plant collapses. This type of damping-off may occur so rapidly that the cotyledons or leaves remain green. Fig. 3.

**Control:** The disease condition encompassed by these three stages may be brought about by one of several organisms. A few of the most common are: *Pythium*, *Rhizoctonia*, *Phytophthora*, *Fusarium*, *Alternaria*, *Sclerotinia*, and *Botrytis*.

One of the easiest and most effective control measures for damping-off and seed rot is to treat the seed and the soil prior to planting. In addition, spray the seedlings and the soil at frequent intervals with a safe fungicide. Seed may be treated chemically or with hot water. Treatment of the soil may be accomplished by fumigation or sterilization. Finally, soil moisture control may be another means of reducing the activity of disease-producing organisms in the seedbed.



Literature:

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